

How
to
use



RECORD

MULTI-PLANE
No. 405

MADE IN ENGLAND



PETER MARQUIS-KYLE

The

RECORD

MULTI-PLANE No 405

The Record Multi-Plane combines the functions of Seven Planes, and with the addition of the special bottoms it replaces several others. Its Range of Operations is:—

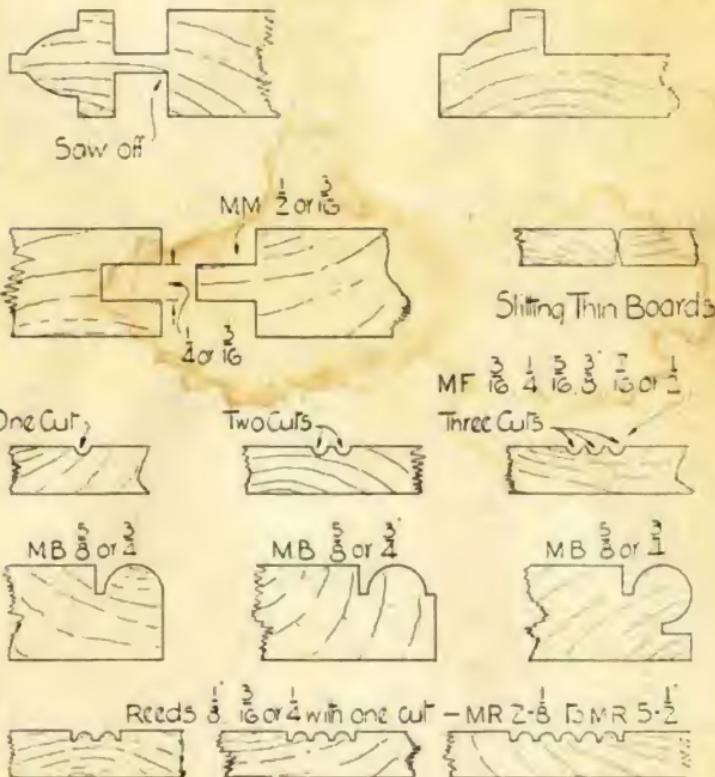
1. Ploughing.
2. Beading, both edge and centre.
3. Dado or Housing.
4. Rabbet and Fillister.
5. Matching, Tongue and Groove.
6. Sash Moulding.
7. Slitting.

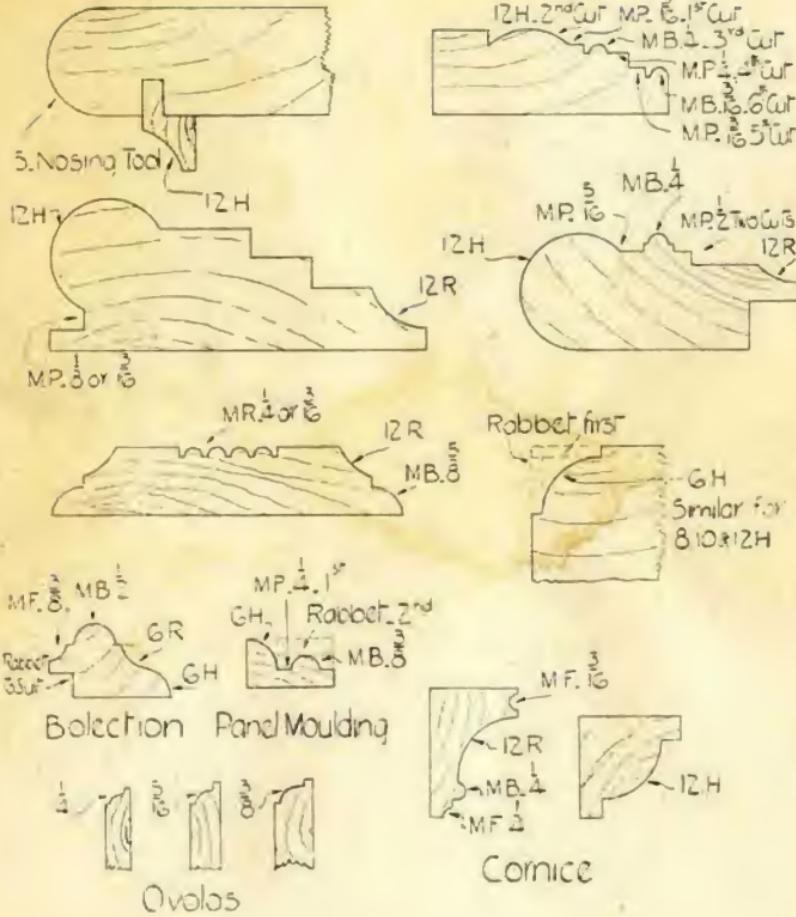
When used with the Special Bases:—

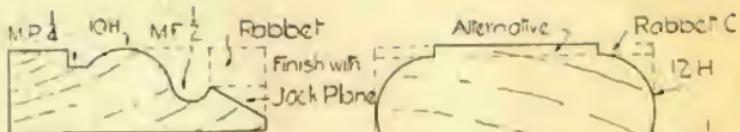
8. Hollows and Rounds.
9. Moulding.
10. Nosing.

All these operations can be performed without any loss of efficiency; the tool is compact, and the handling and control simple.

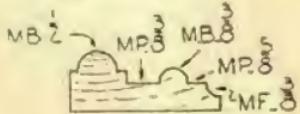
The Record Multi-Plane will perform a wide range of cuts, including all those performed by the Combination Planes and the Plough Planes. The cross sections illustrated are suggestive of the cuts which can be made with the No. 405 Plane, using standard Cutters and also additional Cutters, and indicate in some instances the methods employed and the symbol letters and numbers of the Cutters used.



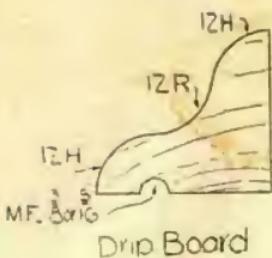




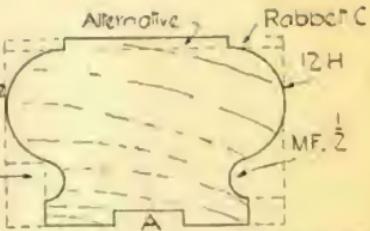
Architrave



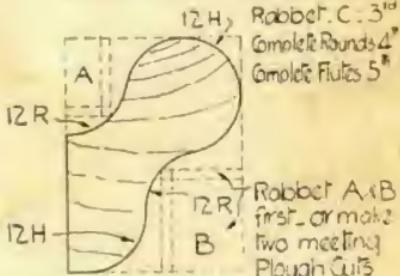
Panel Moulding



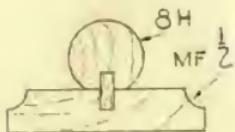
Drip Board



Hand Rail

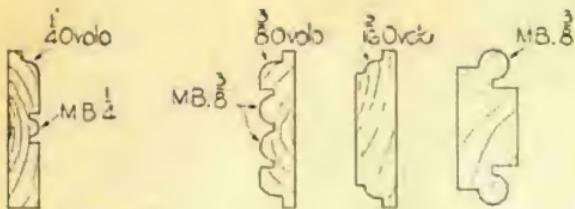


Hand Rail

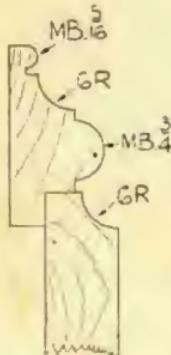


Coping

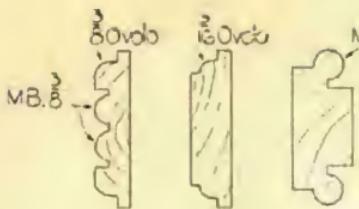




Coffin Skirting



Skirting



Chair Rails

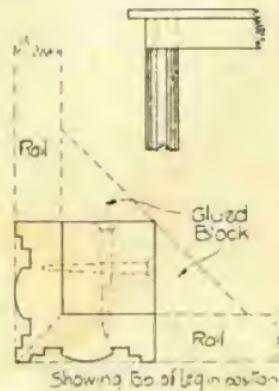
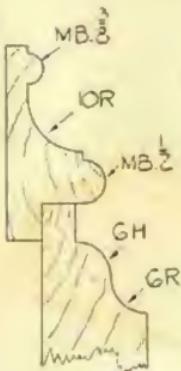
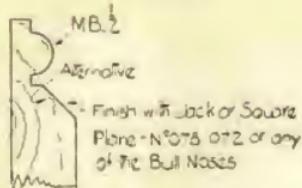
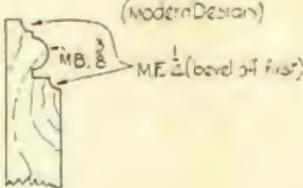


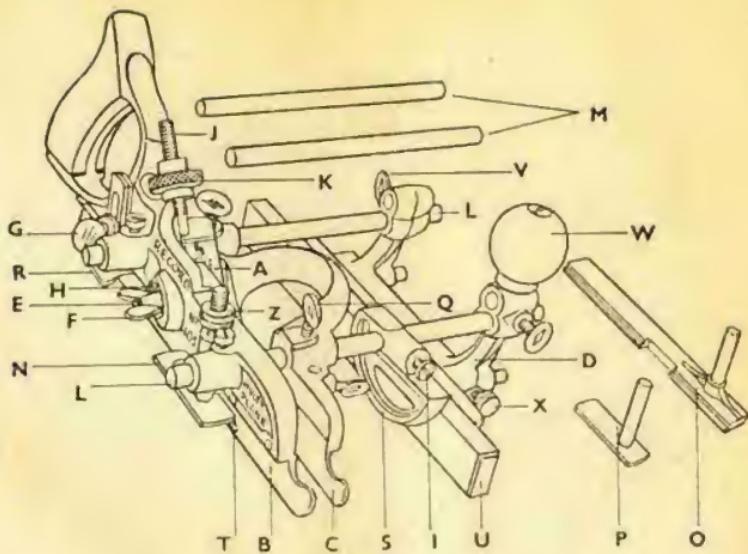
Table Leg
(modern Design)



Skirting



DADO CUTS, i.e., grooves across the grain, can also be performed with these Planes.



ASSEMBLY.

To the MAIN STOCK, B, are attached two ARMS, L, secured by the set screws. On these arms there is a SLIDING SECTION, C.

The soles of B and C each provide a bearing for the CUTTER, A.

SLIDING SECTION, C is secured to the arms by the two thumb screws Q (only one of these shows in the figure; the other is hidden by the cutter).

The FENCE, D, also slides on the arms, and is secured by the thumb screws V.

The MAIN STOCK carries the Handle; the Cutter Adjustment, K; the DEPTH GAUGE, N; the SLITTING TOOL, R; the CUTTER, A; and a Spur, T. (A spur is also carried on the Sliding Section).

S is a CAM REST, used only when centre Beading, etc., at a distance from the edge.

The Depth of the cut is controlled by Depth Gauge, N; the Distance from the edge is controlled by the Fence, D, which has an extra fine adjustment.

USE OF SPURS.

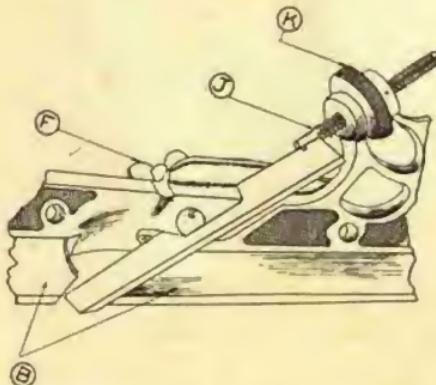
Two Spurs are provided, one in Main Stock B, and one in Sliding Section C, and they are used for cross grain work.

They can be put into operation by releasing the small Retaining Screw and turning so that the Spur projects below the bottom of the Plane Runner.

They act as a knife edge and cut a nick in the wood, which enables the Cutting Iron to make a clean cut without tearing or splintering the surface.

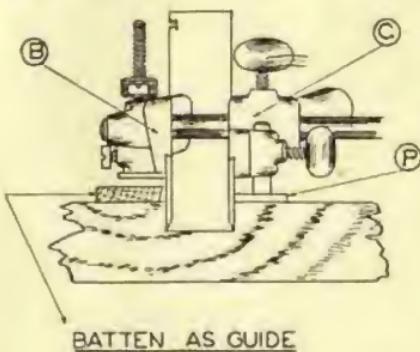
1. TO INSERT A CUTTER

Slacken Cutter Bolt, F. Insert cutter so that slot engages with Pin, J. Adjust with Adjusting Nut, K. Tighten Cutter Bolt.



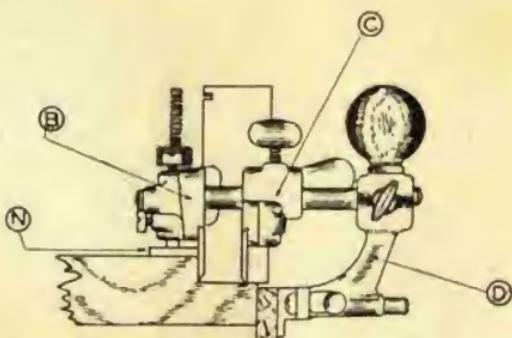
2. TO CUT A GROOVE ACROSS THE GRAIN

(i.e., a Dado or Housing). Choose a cutter of the desired width of the groove. Nail a batten which serves as a guide. Use both spurs. Depth of dado is controlled by the extra gauge, P. Fence D is not required. This is the quickest hand method of grooving for shelving, etc.



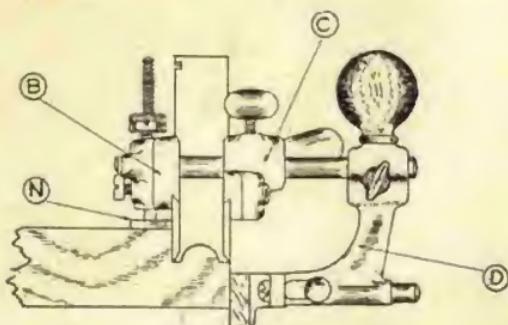
3. FOR RABBET AND FILLISTER WORK.

Use a cutter which is wider than the required rabbet. Slide D under the cutter leaving the desired width exposed. Depth Gauge N controls the depth of the rabbet. Sliding Section C slides under the cutter so as to give a bearing on the outer edge of the rabbet.



4. ORDINARY EDGE BEADING.

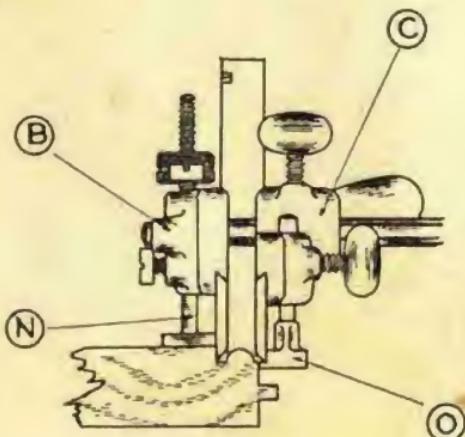
Using the upper holes of D, slide the fence under the outer edge of the cutter so that the outer quirk is either very slight or not cut at all, as required (see page 2). (A slight quirk may be removed with a jack plane, but if the fence is set too far under the cutter a badly shaped bead is produced that cannot be made good.) Depth Gauge N regulates the depth of the cut. It is best to set the Gauge N so that the top of the bead is slightly lower than the face of the board, so that the bead does not suffer



when the job is finally cleaned off. Spurs are not required for any Beading.

5. BEADING TONGUED BOARDS.

Instead of using Fence D, use the BEADING STOP, O, attaching it to Sliding Section C. This in effect provides a fence that can work above the tongue. Depth Gauge N controls the depth of the cut. Spurs are not required.



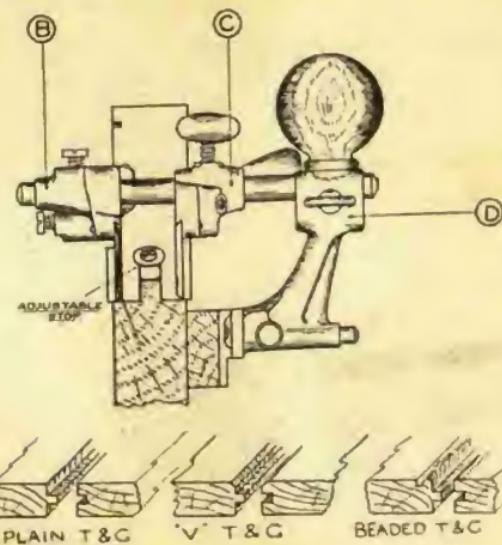
6. CENTRE BEADING.

Set up as for ordinary beading, except that the distance of the bead from the edge will be set by the fence, D. When near the edge the Cam rest may not be required; but at a wider distance from the edge, the CAM REST S should be used on the forward arm to give extra bearing. With fence in normal position, you can centre bead 5" from the edge. Longer arms can be supplied if required.

7. TONGUING AND GROOVING.

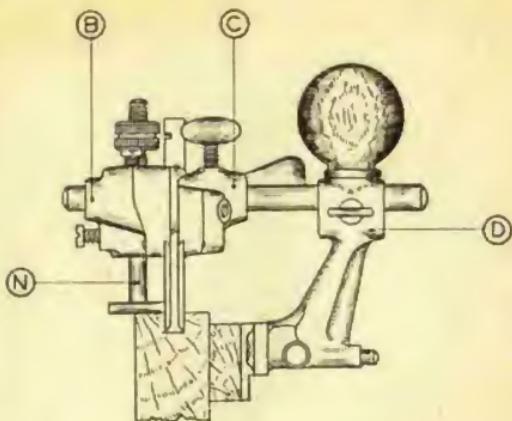
For Tonguing, use the tonguing cutter. As the height of the tongue is controlled by the adjustable stop, it is unnecessary to use the Depth Gauge N. Two cutters are provided, so that boards from $\frac{1}{2}$ " to 1" can be tongued in the centre. Set Fence D to give the position of the tongue. For Grooving, use the corresponding Plough cutter. Set the depth of the groove with the Depth

Gauge N and the distance from the centre with the Fence D. The spurs are unnecessary in these two operations.



8. PLOUGHING

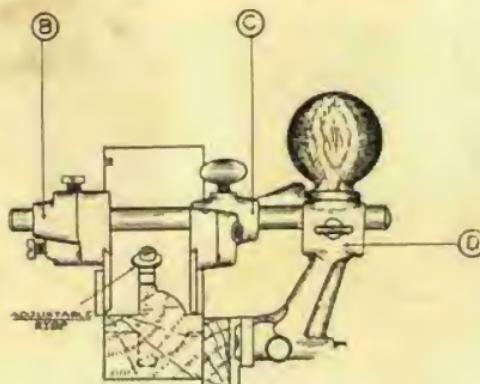
Setting up for ploughing is exactly the same as for grooving. Fence D gives the distance from the edge of the board ; Depth Gauge N gives the depth of the groove. Grooves $\frac{1}{2}$ " deep can be cut without adjusting the cutter, but after this has been done grooves $1\frac{1}{2}$ " can be cut by adjusting the cutter after each cut. It is not necessary to use the spurs.



9. SASH WORK.

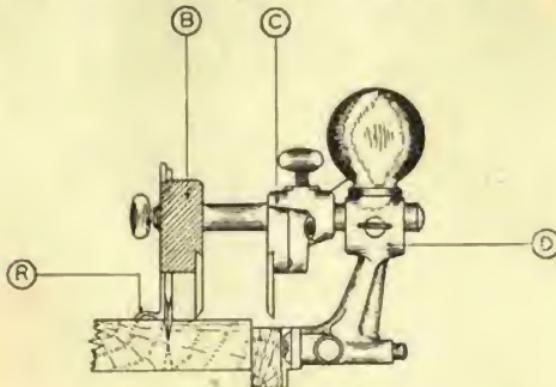
Setting up for Sash Work is similar to setting up for Tonguing, except that the Sash Cutter is used. The Depth Stop is attached to the Sash Cutter, and is adjustable. Fence D is used. It will

be found easier to cut the mouldings from the edge of a board, cutting first one side and then the other, and finally severing the moulding with the saw. This obviates the need for a holding cradle. (See Fig. under heading 13.) When the worker prefers to mark and joint all the bars before moulding them, the first side of the moulding can be cut as indicated, the flat side lying on the bench. To cut the second side, a sticking board should be made (*i.e.*, a ploughed board about three feet long with one wall bevelled off so that the moulded edge can rest in it. It is not necessary to follow the contour of the ovolو exactly, that will lie on the bevel); and the moulding can then be cut. The ploughed groove should be made at such a distance from the edge that the Fence D can take a bearing on the front edge of the sash bar as it overhangs the edge of the bench.



10. SLITTING.

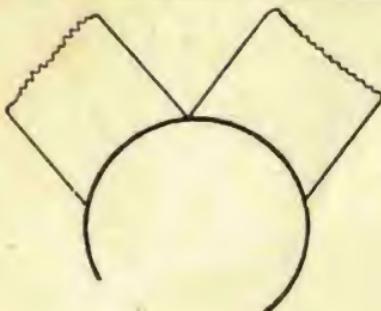
This will be found very speedy in cutting off narrow lengths from boards. Set the slitting cutter in the Main Stock B just in



front of the Handle. Set the Depth Gauge R, which is secured with the same thumb screw as the slitting cutter. The width is controlled by the Fence D. Thin boards can be slit from one side, but it is best to slit thicker ones from both sides, as shown by the dotted line.

11. HOLLOWs, AND ROUNDS, AND NOSING TOOL.

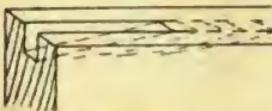
The special Base is used for these purposes, being attached instead of the Sliding Section. A Round Base will cut a hollow, and *vice versa*. Although the cutter having a curvature of the diameter of $\frac{3}{8}$ " is only $\frac{1}{2}$ " in width, it will work anywhere on a $\frac{3}{8}$ " circle, and similarly with the other sizes. The Bases and Cutters can be used in combination with plough grooves and rabbets to



form more complicated mouldings. In cutting a hollow, a gouge may be used first, but a little practice will enable you to use the forefinger of the left hand as a guide so that preliminary cutting with a gouge is not called for. The Nosing Cutter will be found of service in rounding the edges of stair treads and the like.

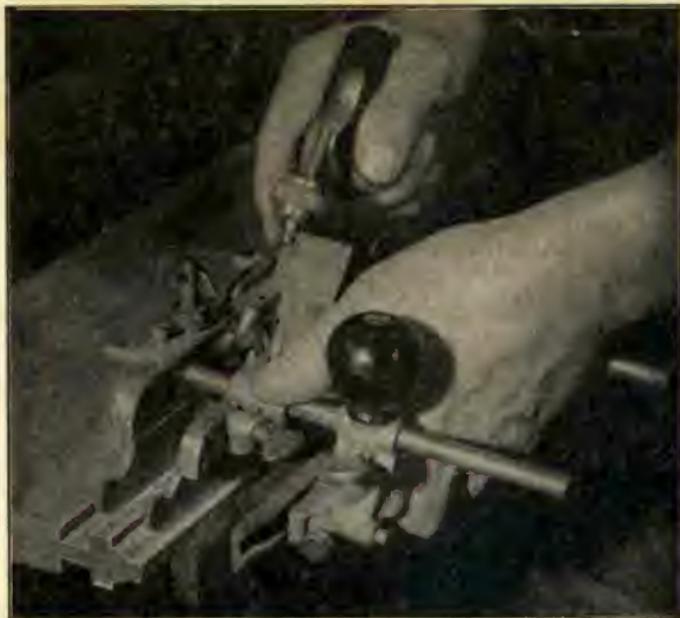
12. WHEN STARTING A CUT,

commence at the end farthest away from you, and work backwards as in the diagram.



13. THE METHOD OF HANDLING THE PLANE

is shown in the diagrams, the first of which shows the sash cutter in operation, the second a beading cutter using the beading gauge. The plane is driven forward with the right hand, the left being used to keep the fence up to the edge. If the left hand is used to push the tool, it is apt to pull it outwards, which results in a bad groove when ploughing, etc. The left hand should keep the fence



up to its work, and should keep the whole horizontal. A rub with the flat of a wax candle is better than oil on the fence, as it makes



the friction less, and has not the same tendency to warp the rosewood face.

14. SHARPENING THE CUTTERS.

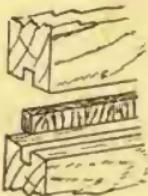
No plane will give good service if the cutter is not sharp. The plough and tonguing cutters offer no difficulty, the method of sharpening being exactly the same as with any other plane blade. They should not be allowed to get "thick," but ground on the stone often enough. Many workers keep a single bevel, and for fine work this is a good plan. Ensure that in grinding or honing the cutter edge is kept square. The Beading and Sash Cutters are most easily kept sharp with an oilstone slip. On account of the difficulty of grinding these cutters on an ordinary grindstone, it is best when honing them to retain a single bevel, honing the full bevel at the original angle. For quick cutting, a carborundum slip can be used, finishing off with a Washita, or preferably an Arkansas slip. When natural slips are not available, fine grade slips such as Aloxite can be used. The smaller beads are easily

honed with a carver's slip. Care should be taken in honing the Hollows, Rounds and Nosing Cutters that the curvature is not altered, but kept like the bases. It is possible to sharpen the cutters with a curved edge with fine emery cloth, wrapped round a rod of corresponding curvature, the emery having a spot of oil on it, but the Arkansas slip will be found to give the keener edge. For beading and sash work, the cutters must be sharp for the best results. The Slitter is sharpened on the oilstone.

15. REMEMBER

that two thin shavings are easier to cut, and are more accurate, than one thick cut. In ploughing, the MULTI-PLANE will stand a lot of "iron," but with thinner shavings, the work is better, easier and more accurate with a sharp cutter and a fine set. In Beading it is essential.

16. "LOOSE TONGUES"

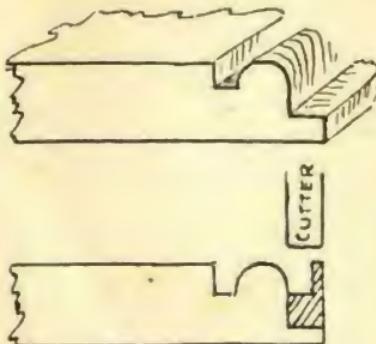


can be inserted by ploughing both boards from the face edge; double and triple grooves can be made by ploughing each groove in turn, on each board, working with the Fence D on the Face Side and making the groove farthest away first, and so on. The Depth Gauge N will be set to half the

width of the tongue. Triple "cross" tongues offer a large glueing surface and make a very strong joint.

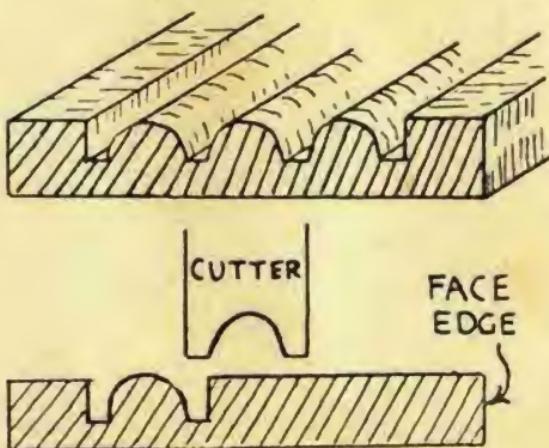
17. TORUS BEADS

can be made by first beading as in the diagram, and then taking the outside quirk away to the desired depth with a straight cutter as in rabbetting.



18. MULTIPLE BEADS

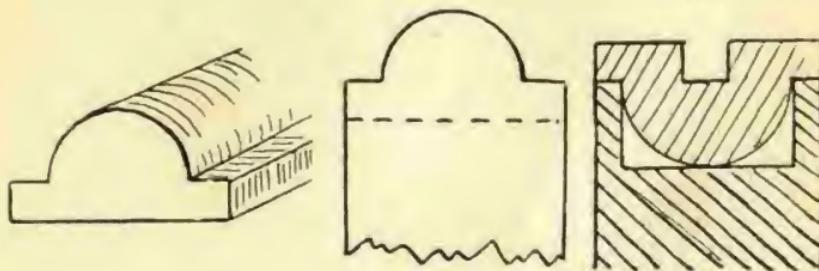
(Reeds) can be cut with a single cutter by first cutting the bead farthest away from the face edge; then adjusting the next so that the quirk on the left of the cutter corresponds with the quirk of the first cut, and so on. When much of this work is to be done, it pays to get the extra cutter, as then all the beads are cut at the one cut.



19. ASTRAGALS

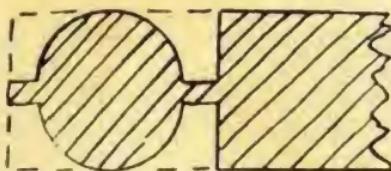
can be cut as shown on the edge of a board, afterwards cutting them off with the saw. A groove can be put in by setting the astragal in a cradle as indicated, and using a plough cutter. Alternatively, both bead and plough groove can be cut on the sides of the board, and the resulting astragal then sawn off. In this case no cradle is required. Plough the groove first and then reverse the board to cut the bead.

A



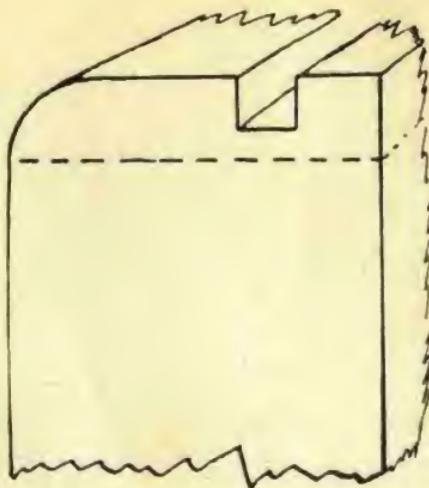
20. ROUND RODS

can be made by taking a board of the right thickness, and cutting a bead on both sides as shown. They require very little cleaning up.



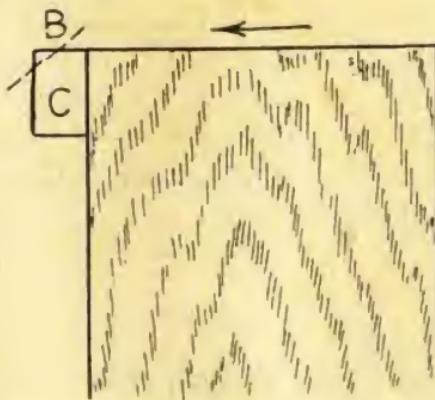
21. DRAWER SLIP (PLOUGH SLIP)

can be quickly made from scrap of $\frac{1}{8}$ " thickness by ploughing $\frac{1}{4}$ " or $\frac{3}{16}$ " (according to the thickness of the drawer bottom) as shown, severing the slip with the saw, and rounding off with the Jack Plane. Centre Slip is similarly made by ploughing two edges and rounding off upper corners.



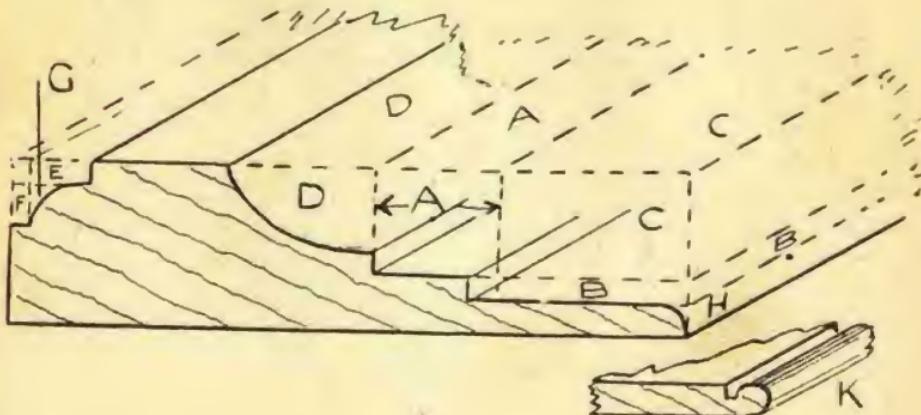
22. WHEN MOULDING THE END GRAIN

attach a piece of wood as at C either by glueing or with a sash cramp. This will prevent the end breaking away. The corner B may be chamfered away.



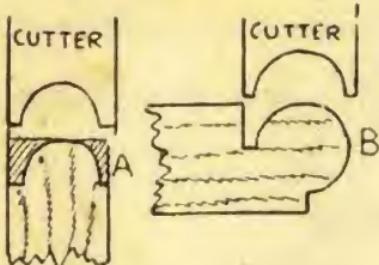
23. IN MAKING MOULDINGS

a little forethought will often save a lot of work. Thus in making the Architrave shown, pieces A and B can be ploughed away, and piece C then falls away. Similarly, E and F can be rabbeted out, leaving little to round off at G. D is hollowed out with the appropriate Bottom and cutter; and H can be rounded off or finished with a bead as shown at K.



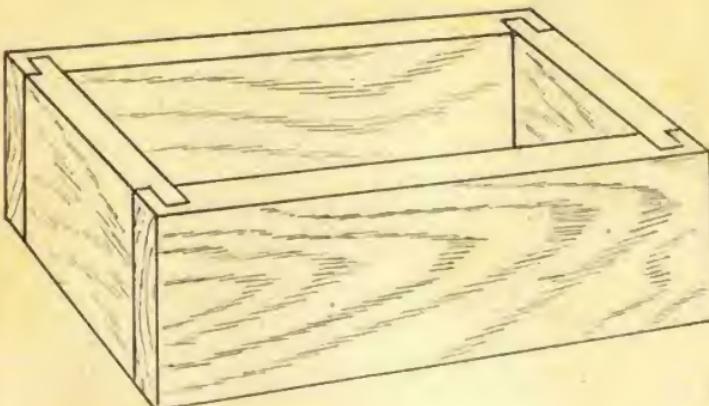
24. A RETURN BEAD (OR STAFF BEAD)

is easy with the MULTI-PLANE, a bead being first made on the edge, leaving a small quirk as at A, and then the cutter being set so as to just take this quirk away as at B.



25. A QUICK BOX CONSTRUCTION

is indicated. The dados (or housings) are made as shown in 2 above. The tongues are cut using the Multi-Plane as for rabbeting, using the spur to cut across the grain.



26. NUMEROUS OTHER APPLICATIONS

will suggest themselves to the worker after a perusal of the foregoing.

27. WHEN MAKING ADJUSTMENTS

hold the plane over the bench so that small screws, etc., do not get lost in the shavings on the floor.

28. TWO SETS OF ARMS

are supplied, and longer ones can be got from the makers if required.

29. ALL PARTS ARE STANDARDISED

and replacements can be obtained.

30. SHARP SPURS

make for easy work on cross grain. The spurs should be sharpened on the inside only, using a fine saw file, holding the spur with flat nosed pliers, resting on the edge of the bench or on the end of a batten held in the Vice. For extra fine work the edge can be finished on the oilstone.

RECORD PLANES

ARE

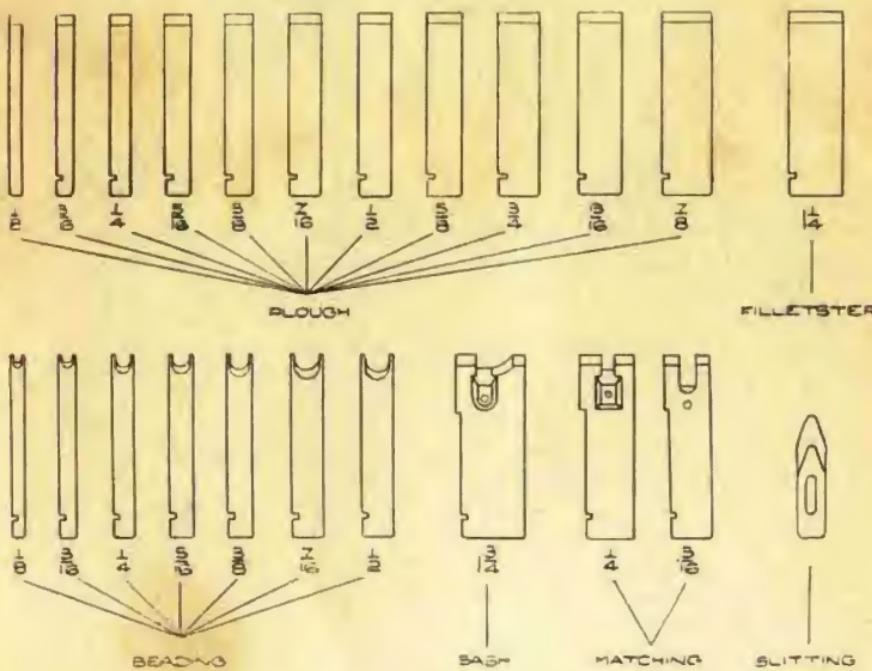
MADE IN ENGLAND

Standard Set of 23 Record Tungsten Steel Cutters

supplied with each Plane, viz.:—

- | | |
|-------------------------|-------|
| 11 Plough and Dado (MP) | |
| 7 Beading | (MB) |
| 1 Sash | (MS) |
| 2 Match | (MM) |
| 1 Fillister | (MF) |
| 1 Slitting | (MST) |

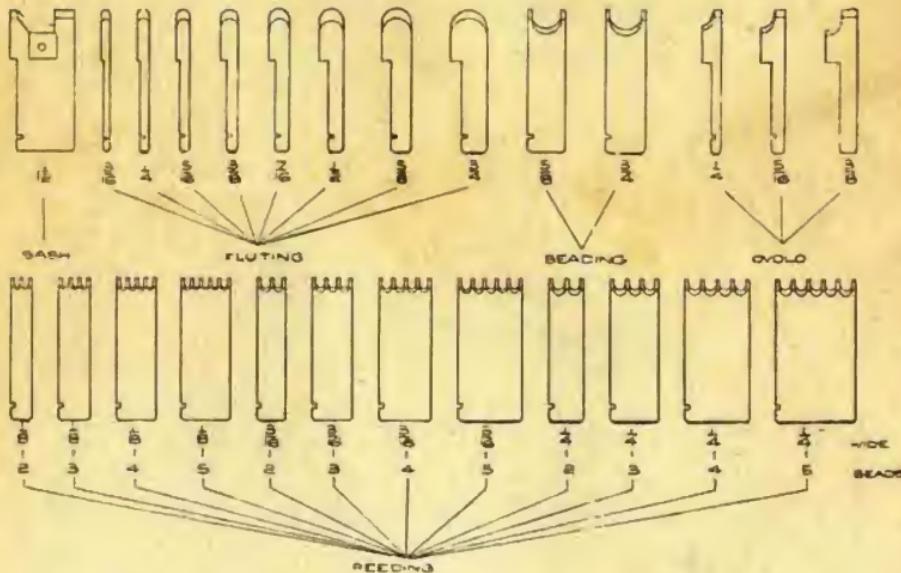
Replacements are available if required.



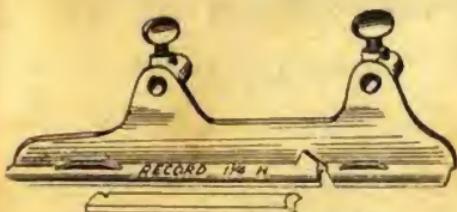
Additional Record Tungsten Steel Cutters

available for the Record Multi-Plane, viz.:—

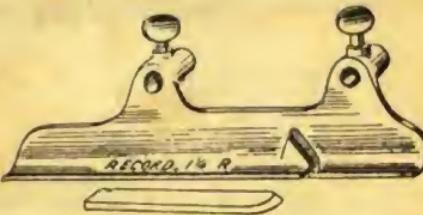
- | | |
|------------|------|
| 1 Sash | (MS) |
| 8 Fluting | (MF) |
| 2 Beading | (MB) |
| 3 Ovolo | (MO) |
| 12 Reeding | (MR) |



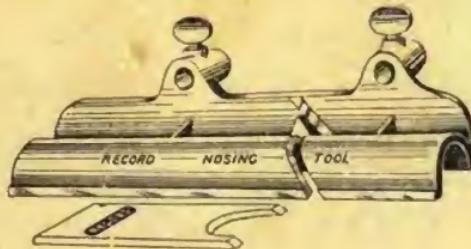
Special Bases and Nosing Tool.



No. 10 Hollow.



No. 10 Round.



No. 5 Nosing Tool

Special Bases are available for the Record Multi-Plane as illustrated above: a Hollow and its Cutter will form a Round; a Round and its Cutter will form a Hollow.

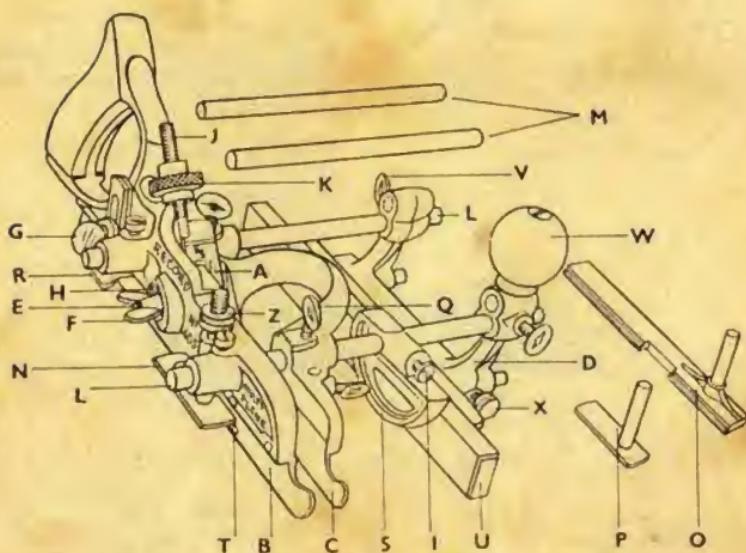
A Nosing Tool and its Cutter will form a Round, as, for example, in shaping the edges of stair treads.

Hollows and Rounds are sold in sets, comprising 1 Hollow, 1 Round and 2 Cutters.

No. and Type	Width of Cutter Inches.	Works Circles Inches.
No. 6 Hollow and Round	...	1
," 8 " "	...	1
," 10 " "	...	1½
," 12 " "	1	1½
," 5 Nosing Tool	1 11/16	1 1/4

Extra CUTTERS for Hollows or Rounds and Nosing Tool are available.

**List of Parts for
RECORD MULTI-PLANE, No. 405.**

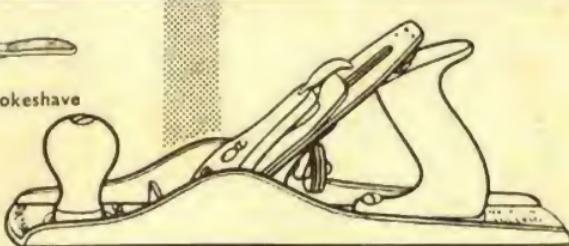


- | | | | |
|---|-------------------------------------|---|--------------------------------|
| A | Standard Cutters (set of 23) | O | Adjustable Beading Stop |
| B | Main Stock | P | Sliding Section Depth Gauge |
| C | Sliding Section | Q | Sliding Section Thumb Screw |
| D | Fence (complete) | R | Slitting Cutter Stop |
| E | Cutter Bolt | S | Cam Steady |
| F | Cutter Bolt Wing Nut | T | Spurs and Screws |
| G | Slitting Cutter Stop
Thumb Screw | U | Rosewood Slide for Fence |
| H | Cutter Bolt Clip and Screw | V | Fence Thumb Screw |
| I | Body Arm Set Screw | W | Knob and Bolt and Nut |
| J | Cutter Adjusting Screw | X | Fence Sliding Bar Set
Screw |
| K | Cutter Adjusting Screw
Wheel | Z | Adjusting Depth Gauge
Nut |
| L | Long Arms (pair) | | |
| M | Short Arms (,,) | | |
| N | Adjustable Depth Gauge | | |

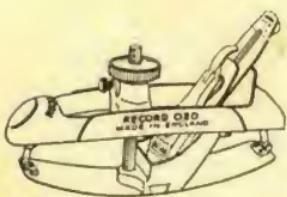
**A few of the many types of
RECORD PLANES**



No. A.65 Chamfer Spokeshave



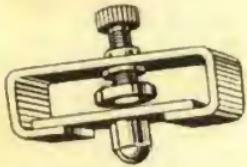
No. 05 Jack Plane



No. 020 Circular Plane



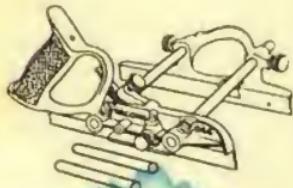
No. 018 Block Plane



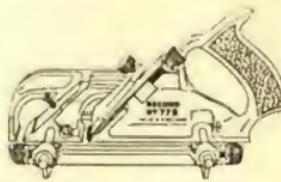
No. 161 Edge Tool Honer



No. 077A Improved Bull-Nose
Rabbet Plane



No. 044 Plough Plane



No. 778 Improved Rabbet Plane

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